

IN THE CLAIMS

1. (PREVIOUSLY PRESENTED) A component management system comprising:
 - a storage unit storing hardware and firmware related electronic information components as a hardware and firmware component knowledge database, each hardware and firmware related electronic information component being electronic information generated during processes including design, development, manufacture, and inspection, of a product,
 - wherein the hardware and firmware related electronic information components include at least one of a drawing of a hardware constituting the product, a firmware, a program, a specification, and a contract for the product, as the electronic information,
 - wherein said hardware and firmware related electronic information components as a variety of electronic information generated during the processes including the design, development, manufacture, and inspection of the product constitute a hierarchical structure in which the hardware and firmware related electronic information components are stored according to a numbering system common to both hardware and firmware electronic information components and added to each hardware and firmware electronic information component,
 - wherein said storage unit stores meta-information according to Extensible Markup Language (XML) data expressing the hierarchical structure of the hardware and firmware related electronic information components, and
 - wherein said hardware and firmware related electronic information components constituting said product are at a same management level;
 - a server which manages the hardware and firmware component knowledge database stored in said storage unit; and
 - at least one client, which is connected to said server via a network, and accesses a desired hardware and firmware related electronic information component from said hardware and firmware related electronic information components constituting the hierarchical structure based on the meta-information.

2. (PREVIOUSLY PRESENTED) A component management device comprising:
a storage unit storing hardware and firmware related electronic information components as a hardware and firmware component knowledge database, each hardware and firmware related electronic information component being electronic information generated in processes including design, development, manufacture, and inspection, of a product,
wherein the hardware and firmware related electronic information components include at least one of a drawing of a hardware constituting the product, a firmware, a program, a specification, and a contract constituting the product, as the electronic information,
wherein said hardware and firmware related electronic information components as a variety of electronic information generated during the processes including the design, development, manufacture, and inspection of the product constitute a hierarchical structure in which the hardware and firmware related electronic information components are stored according to a numbering system common to both hardware and firmware electronic information components and added to each hardware and firmware electronic information component,
wherein said storage unit stores meta-information according to Extensible Markup Language (XML) data expressing the hierarchical structure of the hardware and firmware related electronic information components, and
wherein said hardware and firmware related electronic information components constituting said product are at a same management level; and
a management unit managing the hardware and firmware component knowledge database by controlling a process of a client accessing a desired hardware and firmware related electronic information component from said hardware and firmware related electronic information components constituting the hierarchical structure based on the meta-information.

3. (CANCELLED)

4. (PREVIOUSLY PRESENTED) The component management device according to claim 2, wherein the meta-information comprises access limiting information related to permission/non-permission of access to each hardware and firmware related electronic information component, and wherein said client accesses the desired hardware and firmware related electronic information component based on the access limiting information only when said client gets permission.

5. (PREVIOUSLY PRESENTED) The component management device according to claim 2, wherein said hardware and firmware related electronic information component comprises patch information for automatically performing a patch processing to an applicable firmware, and wherein said client performs the patch processing to the applicable firmware based on the patch information.

6. (PREVIOUSLY PRESENTED) The component management device according to claim 2, wherein said client retrieves the desired hardware and firmware related electronic information component based on meta-information.

7. (PREVIOUSLY PRESENTED) The component management device according to claim 2, wherein said management unit sends a notice of revision to said client via said network when a hardware and firmware related electronic information component already stored in said storage unit is revised and sends a notice of new registration to said client via said network when a new hardware and firmware related electronic information component is registered in said storage unit, and wherein said client accesses said desired hardware and firmware related electronic information component at an arbitrary timing after said client receives the notice of revision or the notice of new registration.

8. (PREVIOUSLY PRESENTED) The component management device according to claim 2, wherein said management unit conducts communications related to a development consignment of said product with a development maker side client placed in an external development maker and connected thereto via said network.

9. (PREVIOUSLY PRESENTED) A component development data management device comprising:

a storage unit storing hardware and firmware development data, including design, manufacture and inspection data, generated to constitute a product, as a component development knowledge database, wherein said hardware and said firmware development data, including the design, the manufacture and the inspection data, constituting said product are at a same management level; and

a management unit managing the component development knowledge database by controlling a process of a client accessing the hardware and firmware development data, including the design, the manufacture and the inspection data from said storage unit via a network, and conducting communications for getting a permission of quotation of a catalog of parts constituting said product based upon the hardware and firmware development data, including the design, the manufacture and the inspection data, with an author side client placed in the author side issuing the catalog and registering the catalog as a database in said storage unit when the management unit gets the permission.

10. (PREVIOUSLY PRESENTED) A computer-readable recording medium recording a component management program controlling a computer according to a process comprising:

storing hardware and firmware related electronic information components as a hardware and firmware component knowledge database, each hardware and firmware related electronic information component being electronic information generated during processes including design, development, manufacture, and inspection, of a product,

wherein the hardware and firmware related electronic information components include at least one of a drawing of a hardware constituting the product, a a firmware, a program, a specification, and a contract for the product, as the electronic information,

wherein said hardware and firmware related electronic information components as a variety of electronic information generated during the processes including the design, development, manufacture, and inspection of the product constitute a hierarchical structure in which the hardware and firmware related electronic information components are stored according to a numbering system common to both hardware and firmware electronic information components and added to each hardware and firmware electronic information component,

wherein the storing comprises storing meta-information according to Extensible Markup Language (XML) data expressing the hierarchical structure of the hardware and firmware related electronic information components, and

wherein said hardware and firmware related electronic information components constituting said product are at a same management level; and

managing the component knowledge database by controlling a process of a client accessing a desired hardware and firmware related electronic information component from said hardware and firmware related electronic information components constituting the hierarchical structure based on the meta-information.

11. (PREVIOUSLY PRESENTED) A component knowledge system, comprising:
a programmed computer processor controlling the component knowledge system according to a process comprising:

generating, storing and managing meta-information by treating at same management level varyingly managed and related electronic information components that are hardware and firmware related electronic information generated in processes including design, development, manufacture, and inspection, of a product and include at least one of a drawing of a hardware constituting the product, a firmware, a program, a specification, and a contract constituting the product,

wherein said hardware and firmware related electronic information components as a variety of electronic information generated during the processes including the design, development, manufacture, and inspection of the product constitute a hierarchical structure in which the hardware and firmware related electronic information components are stored according to a numbering system common to both hardware and firmware electronic information components and added to each hardware and firmware electronic information component, and

wherein the meta-information is stored according to Extensible Markup Language (XML) data expressing the hierarchical structure of the hardware and firmware related electronic information components, and

controlling a process of a client accessing a desired hardware and firmware related electronic information component from said hardware and firmware related electronic information components constituting the hierarchical structure based on the meta-information.

12. (CANCELLED)

13. (CANCELLED)

14. (CURRENTLY AMENDED) The component management system of claim-2_1, wherein patch information of each firmware electronic information component is included as a subclass in the numbering system.

15. (CURRENTLY AMENDED) The component management system of claim-2_1, wherein the XML data comprises destination information of the hardware and firmware related electronic information components.

16. (CURRENTLY AMENDED) The component management system of claim-2_1, wherein the XML data comprises new and revised design notice information of the hardware and firmware related electronic information components.

17. (CANCELLED)